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ABSTRACT OF THE DISCLOSURE

A vocoder control technique provides robust vocoder control allowing a radio access network (RAN) to reliably control remote vocoding functions in support of mobile station signaling. In some wireless communication network implementations, vocoding functions are remote from the RAN, such as where a base station controller interconnects with a media gateway via a packet core network, with the media gateway providing vocoding services for voice data incoming from the PSTN. When the RAN has IS-95/IS-2000 signaling messages for the mobile station, it inserts a specialized rate control message into one or more voice frames passing from the RAN to the media gateway. The message defines the desired rate constraint and the number voice frames to be constrained. In response, the media gateway applies the desired rate constraint to the specified number of frames, allowing the RAN to insert signaling messages into the rate constrained frames using dim-and-burst signaling techniques.